Amendments to the Claims

1-~~12~~ 11. (cancelled)

12. (currently amended) A calibration process for mapping the angular and spacing positions of referencing cameras, comprising

~~applying~~ positioning a calibration tool having two reflectors secured at predetermined positions at a known ~~space~~ distance away from each other in the viewing range of ~~both~~ said cameras,

moving said calibration tool three-dimensionally in said viewing range,

mapping several intermediate positions of said calibration tool by said referencing cameras and converting the resulting data by means of a computer unit individually into three-dimensional coordinates of the reflectors or calibration tool, and

computing and memorizing said angular and spacing positions of said cameras from said three-dimensional ~~positions~~ coordinates of said reflectors or calibration tool by means of said computer unit.

13. (currently amended) The process ~~as~~ set forth in claim 12, further comprising projecting on ~~wherein~~ a graphic display terminal ~~displays said~~ a projected relative position of said reflectors during said three-dimensional movement of said calibration tool.

14. (currently amended) The process ~~as~~ set forth in claim 12, wherein ~~the~~ a pointer provided with said removable reflectors is used as said calibration tool.

15. (currently amended) The process ~~as~~ set forth in claim 12, wherein a calibration rod provided with said removable reflectors is used as said calibration tool.

16. (currently amended) ~~A~~ In a control system for a surgical microscope, ~~comprising~~

a microscope stand having a base, ~~and several interarticulated~~ articulated ~~arms moveable three-dimensionally powered or manually and~~

a microscope ~~mounting and control unit~~ mounted to the stand for three-dimensional movement,

a source of ~~preferably~~ infrared radiation,

at least two mapping ~~or referencing~~ cameras,

a computer unit connected to said cameras,

~~including~~ a graphic display terminal connected to said ~~cameras~~ computer unit, and

~~wherein~~ at least three infrared radiation reflectors ~~are connected~~ removably attached to said microscope ~~removably via an adapter in an arrangement uniquely characteristical for this reflector array~~ in a characteristic arrangement.

17. (currently amended) The control system ~~as~~ set forth in claim 16, wherein ~~three-dimensional positioning~~ said microscope has optics and ~~in a first calibration is done~~ has been calibrated by ~~means of~~ focusing the optics of said microscope on a point having known three-dimensional coordinates, ~~preferably the calibration point of a reference adapter,~~ and wherein ~~the~~ focusing data ~~being~~ has been transferred ~~by a data transfer means~~ to said computer unit ~~whilst~~ while said computer unit ~~maps~~ mapped the three-dimensional position of said microscope by means of said reflectors and said cameras.

18. (currently amended) The control system ~~as~~ set forth in claim 17, wherein ~~after said first calibration, and in each case by signalling said actuator motors of said microscope by said computer unit or by feedback of said microscope movements and position data to said computer unit,~~ one or more of the following control sequences are implemented by the computer unit:

a) automatically tracking and focusing an instrument tip, the position of which is known to said computer unit via the use of infrared radiation reflectors and said cameras;

b) automatically focusing a memorized or predetermined point of operative treatment; and

c) focusing a point of operative treatment from various three-dimensional and angular positions of said microscopes.

19. (cancelled)

20. (cancelled)

21. (cancelled)

22. (cancelled)

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23, (new) In an image-guided surgical system comprising at least one instrument that is tracked by a navigation system, a calibration device including a conical guide surface terminating at a central calibration point for locating a tip of the instrument at a known location in the navigation system.